

## CLAIMS

1. A process for producing  $\alpha$ -methylstyrene, which comprises dehydrating cumyl alcohol in the presence of  
5 activated alumina, wherein a concentration of propylene oxide in a raw material containing cumyl alcohol is 0 to 10,000 ppm by weight.

2. The process according to claim 1, wherein the concentration of propylene oxide is 0 to 5,000 ppm by weight.

10 3. A process for producing propylene oxide, which comprises the following steps:

oxidation step: a step of obtaining cumene hydroperoxide by oxidizing cumene;

15 epoxidation step: a step of obtaining propylene oxide and cumyl alcohol by reacting cumene hydroperoxide obtained in the oxidation step with propylene;

dehydration step: a step of obtaining  $\alpha$ -methylstyrene by dehydrating cumyl alcohol obtained in the epoxidation step in the presence of a dehydration catalyst; and

20 hydrogenation step: a step of hydrogenating  $\alpha$ -methylstyrene in the presence of a hydrogenation catalyst to convert into cumene and recycling said cumene to the oxidation step,

wherein the dehydration step comprises the process of  
25 claim 1.